What is claimed is

1. A bending apparatus for form bending of closed, half-open and open hollow sections having a central roller (3) coming to rest against the inside of the structural section being bent (1, 1'), a forming roller (4) coming to rest against the outside of the bend, and a bending roller (11) arranged at the discharge end of the structural section that acts upon the outside of the bend, namely counter to the support action of a support roller (5, 6) arranged on the outside of the bend at the incoming side, **characterized in that** there are disposed in a plane perpendicular to the bending plane with respect to the opposed central and forming rollers (3, 4) additional forming rollers (12, 13), which act upon the upper and lower side wall (50, 51) of the structural section.

2. A bending apparatus according to claim 1 **characterized in that** the forming rollers acting upon the side walls (50, 51) are designed as oscillating forming rollers (12, 13).

3. A bending apparatus according to claim 1 or 2, **characterized in that** the material flows generated in the front wall at the outside of the bend are deflected by means of the oscillating forming rollers (12, 13) acting upon the side walls (50, 51), over the associated side walls into the front wall at the inside of the bend.

4. A bending apparatus according to any of claims 1 through 3, **characterized in that** in the case of the roll-out bending, the upper and lower oscillating forming rollers (12, 13) are positioned conically inclined toward each other in their axial position against the plane-parallelism of the structural section to be bent.

5. A bending apparatus according to claim 4, **characterized in that** a greater roll-out depth is attained at the two upper and lower side walls (50, 51) on the outside of the bend than, by

comparison, on the inside of the bend.

6. A bending apparatus according to claim 4 or 5, **characterized in that** the oscillating forming rollers (12, 13) have a relative penetration depth into the material at the upper and lower side wall (50, 51) on the outside of the bend, whereas the penetration depth tapers off toward 0 toward the inside of the bend.

7. A bending apparatus according to any of claims 4 through 6, **characterized in that** the bending line is moved to the inside of the bend and a grain flow is induced from the outside of the bend toward the inside of the bend.

8. A bending apparatus according to any of claims 4 through 7, **characterized in that** the roller (forming roller) on the outside of the bend is moved plane-parallel against the outside of the bend of the structural section, and that the roller (central roller) resting against the inside of the bend is moved plane-parallel against the inside of the bend.

9. A bending apparatus according to any of claims 4 through 8, **characterized in that** the forming and central rollers resting against the inside and outside of the bend are also designed oscillating and positioned inclined toward each other.

10. A bending apparatus according to any of claims 1 through 9, **characterized in that** in the case of the gravity bending of a symmetrical structural section, the bending line remains in the gravity line, approximately in the center of the structural section to be bent.

11. A bending apparatus according to any of claims 1 through 10, **characterized in that** the upper and lower oscillating forming rollers (12, 13) have an at least partly conical roller surface.

12. A bending apparatus according to claim 11, **characterized in that** in the region toward a central (middle) center line from the bending line outward, the contour has an incline and that from the bending line toward the inside of the bend, the contour of the upper and lower oscillating forming roller (12, 13) is plane-parallel to the structural section shape of the original unformed structural section.

13. A bending apparatus according to any of claims 1 through 12, **characterized in that** in the case of the roller upset bending, the bending line is moved toward the outside of the bend and the material thickenings of the side walls are deflected into the inside wall of the bend.

14. A bending apparatus according to any of claims 1 through 13, **characterized in that** the speed of the roller resting against the respective outside and inside of the structural section is less than the speed of the structural section through the bending gap.

15. A bending apparatus according to any of claims 1 through 14, **characterized in that** there are arranged at the inside and outside of the bend brake shoes that increase the resistance on the structural section to be bent, and a strong upsetting effect is created in the neutral axis.

16. A bending apparatus according to any of claims 1 through 15, **characterized in that** in addition to the oscillating rollers (12, 13), the central roller (3) and forming roller (4) are also designed to be swivelable

17. A bending apparatus according to any of claims 1 through 16, **characterized in that** the central roller and the opposed forming roller can be conically inclined as well

18. A method using an apparatus according to one or more of claims 1 through 17, **characterized in**

that the material flows generated in the front wall at the outside of the bend are deflected over the associated side walls into the front wall at the inside of the bend.

19. A method according to claim 18, **characterized in that** in the case of the flow forming and bending, a grain flow is induced in the neutral axis of a structural section, extending from the outside of the bend of the structural section toward the inside of the bend, (roll-out bending).

20. A method according to claim 18, **characterized in that** in the case of the flow forming and bending, a grain flow is induced in the neutral axis of a structural section, extending from the inside of the bend of the structural section toward the outside of the bend (roller upset bending).

21. A method according to claim 18, **characterized in that** in the case of the flow forming and bending, the gravity line (= approximate bending line) remains intact unshifted, that as a result of the upsetting forces an increase of the material takes place starting from the bending center line of the structural section toward the inside of the bend, and that a material decrease in the same volume takes place via a roll-out process on the outside of the bend (), with the result that, due to the roll-out effects, upsetting and stretching forces are eliminated by the roll-out action, (gravity bending).